EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	29221	mannos$4	US-PGPUB; USPAT	OR	ON	2006/12/05 09:08
L2	410237	phosphate phospho phosphoryl$8	US-PGPUB; USPAT	OR	ON	2006/12/05 09:08
L3	1830	1 near4 2	US-PGPUB; USPAT	OR	ON	2006/12/05 08:42
L4	125189	inflammatory inflammation	US-PGPUB; USPAT	OR	ON	2006/12/05 09:08
L5	51469	epithelial	US-PGPUB; USPAT	OR	ON	2006/12/05 09:08
L6	42130	vagina$4 vaginitis	US-PGPUB; USPAT	OR	ON	2006/12/05 09:09
L7	1154	3 and (4 5 6)	US-PGPUB; USPAT	OR	ON	2006/12/05 08:43
L8	110	3 same (4 5 6)	US-PGPUB; USPAT	OR	ON	2006/12/05 08:43
L9	110	7 and 8	US-PGPUB; USPAT	OR	ON	2006/12/05 09:08
L10	3381	mannos$4	EPO; JPO; DERWENT	OR	ON	2006/12/05 09:08
L11	127724	phosphate phospho phosphoryl$8	EPO; JPO; DERWENT	OR	ON	2006/12/05 09:08
L12	74513	inflammatory inflammation	EPO; JPO; DERWENT	OR	ON	2006/12/05 09:08
L13	6492	epithelial	EPO; JPO; DERWENT	OR	ON	2006/12/05 09:09
L14	9451	vagina$4 vaginitis	EPO; JPO; DERWENT	OR	ON	2006/12/05 09:09
L15	338	10 and 11	EPO; JPO; DERWENT	OR	ON	2006/12/05 09:09
L16	28	15 and (12 13 14)	EPO; JPO; DERWENT	OR	ON	2006/12/05 09:09

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      (FILE 'HOME' ENTERED AT 10:02:13 ON 05 DEC 2006)

      FILE 'CAPLUS' ENTERED AT 10:02:25 ON 05 DEC 2006
                  E YANG SHU/IN
L1             34 S E3 OR E15
                  E HUANG YANBIN/IN
L2             19 S E3
                  E HUANG YAN/IN
L3             51 S E3
L4              6 S L1 AND (L2 OR L3)
L5          39753 S MANNOSE
L6         605488 S PHOSPHATE
L7              1 S L4 AND L5 AND L6

      FILE 'REGISTRY' ENTERED AT 10:09:47 ON 05 DEC 2006
L8              1 S MANNOSE 6-PHOSPHATE/CN
L9              0 S MANNOSE 3-PHOSPHATE/CN
L10             0 S MANNOSE 1-PHOSPHATE/CN
L11           324 S C6 H13 O9 P/MF
L12          6119 S MANNOSE
L13            15 S L11 AND L12

      FILE 'CAPLUS' ENTERED AT 10:14:14 ON 05 DEC 2006
L14            14 S L13/PAC
L15            66 S L13/THU
L16          1003 S L13/BIOL
L17          1003 S L15 OR L16

      FILE 'MEDLINE, EMBASE, BIOSIS, CAPLUS' ENTERED AT 10:16:17 ON 05 DEC 2006

      FILE 'CAPLUS' ENTERED AT 10:16:52 ON 05 DEC 2006
L18         46857 S MANNOS?
L19        605488 S PHOSPHATE
L20           934 S L17 AND L18 AND L19
L21           934 S L20 OR LL17
L22          1003 S L20 OR L17
L23         21020 S VAGINA?
L24           801 S VAGINITIS
L25         17731 S ATROPHY
L26        163511 S EPITHEL?
L27            31 S L22 AND (L23 OR L24 OR L25 OR L26)
L28           972 S L22 NOT L27
L29            61 S L15 NOT L27
L30            55 S L29 AND L18 AND L19 ---> D SCAN
L31             6 S L29 NOT L30

=> S L22 NOT (L27 OR L29)
L32           911 L22 NOT (L27 OR L29)

=> S L32 AND L23
L33             0 L32 AND L23
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L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1004340 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 143:292562
TITLE: Mannose phosphate compositions for vaginal treatment
INVENTOR(S): Yang, Shu-ping; Huang, Yanbin
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005203032	A1	20050915	US 2004-801063	20040315
WO 2005094840	A1	20051013	WO 2005-US772	20050106
WO 2005094840	C1	20060810		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-801063 A 20040315
OTHER SOURCE(S): MARPAT 143:292562

AB The invention provides mannose 6-phosphate and salts thereof for increasing vaginal cell growth, vaginal cell maturation and vaginal moisture, as well as compns., articles and methods for treating and preventing vaginal conditions characterized by poor vaginal cell growth, low vaginal cell differentiation and low vaginal moisture. Mannose-6-phosphate stimulated cell proliferation and vaginal cell maturation.

L27 ANSWER 1 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1004340 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 143:292562
TITLE: **Mannose phosphate** compositions for **vaginal** treatment
INVENTOR(S): Yang, Shu-ping; Huang, Yanbin
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005203032	A1	20050915	US 2004-801063	20040315
WO 2005094840	A1	20051013	WO 2005-US772	20050106
WO 2005094840	C1	20060810		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2004-801063 A 20040315
OTHER SOURCE(S): MARPAT 143:292562
AB The invention provides **mannose** 6-**phosphate** and salts thereof for increasing **vaginal** cell growth, **vaginal** cell maturation and **vaginal** moisture, as well as compns., articles and methods for treating and preventing **vaginal** conditions characterized by poor **vaginal** cell growth, low **vaginal** cell differentiation and low **vaginal** moisture. **Mannose**-6-**phosphate** stimulated cell proliferation and **vaginal** cell maturation.

L27 ANSWER 2 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:684077 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 143:302381
TITLE: Chlamydia pneumoniae uses the **mannose** 6-**phosphate**/insulin-like growth factor 2 receptor for infection of endothelial cells
AUTHOR(S): Puolakkainen, Mirja; Kuo, Cho-Chou; Campbell, Lee Ann
CORPORATE SOURCE: Department of Pathobiology, University of Washington, Seattle, WA, USA
SOURCE: Infection and Immunity (2005), 73(8), 4620-4625
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Several mechanisms for attachment and entry of Chlamydia have been proposed. We previously determined that the major outer membrane protein of Chlamydia trachomatis is glycosylated with a high-**mannose** oligosaccharide, and a similar structure inhibited the attachment and infectivity of C. trachomatis in **epithelial** cells. Because insulin-like growth factor 2 (IGF2) was shown to enhance the infectivity of Chlamydia pneumoniae but not C. trachomatis in endothelial cells, a hapten inhibition assay was used to analyze whether the **mannose** 6-**phosphate** (M6P)/IGF2 receptor that also binds M6P could be involved in infection of endothelial cells (HMEC-1) by Chlamydia. M6P and **mannose** 6-**phosphate**-poly[N-(2-hydroxyethyl)-acrylamide] (M6P-PAA) inhibited the infectivity of C. pneumoniae AR-39, but not C. trachomatis serovar UW5 or L2, while mannan inhibited the growth of C. trachomatis, but not C. pneumoniae. Using metabolically labeled organisms incubated with cells at 4° (organisms attach but do not enter) or at 37° (organisms attach and are internalized), M6P-PAA was shown to inhibit attachment and internalization of C. pneumoniae in endothelial

cells but did not inhibit attachment or internalization of C. trachomatis serovar E or L2. These findings indicate that C. pneumoniae can utilize the M6P/IGF2 receptor and that the use of this receptor for attachment and entry differs between C. pneumoniae and C. trachomatis.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 3 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:290472 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 140:264527
TITLE: Methods and compositions for treatment of neurological disorder
INVENTOR(S): Benowitz, Larry I.
PATENT ASSIGNEE(S): Children's Medical Center Corporation, USA
SOURCE: PCT Int. Appl., 59 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004028468	A2	20040408	WO 2003-US30466	20030925
WO 2004028468	A3	20041021		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2499170	AA	20040408	CA 2003-2499170	20030925
AU 2003272728	A1	20040419	AU 2003-272728	20030925
EP 1542702	A2	20050622	EP 2003-754929	20030925
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1703227	A	20051130	CN 2003-825428	20030925
JP 2006503847	T2	20060202	JP 2004-540004	20030925
US 2005256059	A1	20051117	US 2005-528685	20050718
PRIORITY APPLN. INFO.:			US 2002-414063P P	20020927
			WO 2003-US30466 W	20030925

AB The invention provides methods and compns. for producing a neurosalutary effect in a subject useful for the treatment of neurol. disorders, including retinal and optic nerve damage, in a subject in need thereof. The method includes administration to a subject a therapeutically effective amount of a hexose, such as **mannose.**

L27 ANSWER 4 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:678665 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 133:291537
TITLE: Insulin-like growth factor-II/cation-independent **mannose** 6-**phosphate** receptor mediates paracrine interactions during spermatogonial development
AUTHOR(S): Tsuruta, James K.; Eddy, E. M.; O'Brien, Deborah A.
CORPORATE SOURCE: The Laboratories for Reproductive Biology, Departments of Pediatrics, The University of North Carolina at Chapel Hill, Chapel Hill, NC, 27599, USA
SOURCE: Biology of Reproduction (2000), 63(4), 1006-1013
CODEN: BIREBV; ISSN: 0006-3363
PUBLISHER: Society for the Study of Reproduction
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The insulin-like growth factor-II/cation-independent **mannose** 6-**phosphate** (IGF-II/M6P) receptor transduces signals after binding IGF-II or M6P-bearing growth factors. It was hypothesized that this receptor relays paracrine signals between Sertoli cells and spermatogonia in the basal compartment of the seminiferous **epithelium.** For these studies spermatogonia were isolated from 8-day-old mice with purity

>95% and viability >85% after overnight culture. The IGF-II/M6P receptors were present on the surface of spermatogonia, as detected by indirect immunofluorescence. It was determined that both IGF-II and M6P-glycoproteins in Sertoli cell conditioned medium (SCM) modulate gene expression in isolated spermatogonia. The IGF-II produced dose-dependent increases in both rRNA and c-fos mRNA. These effects were mediated specifically by IGF-II/M6P receptors, as shown by studies using IGF-II analogs that are specific agonists for either IGF-I or IGF-II receptors. The SCM treatment also induced dose-dependent increases in rRNA levels, and M6P competition showed that this response required interaction with IGF-II/M6P receptors. The M6P-glycoproteins isolated from SCM by IGF-II/M6P receptor affinity chromatog. increased spermatogonial rRNA levels at much lower concns. than required by SCM treatment, providing further evidence for the paracrine activity of Sertoli M6P-glycoproteins. These results demonstrate that Sertoli cells secrete paracrine factors that modulate spermatogonial gene expression after interacting with cell-surface IGF-II/M6P receptors.
REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 5 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2000:257854 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 133:27118
TITLE: Involvement of insulin-like growth factors in early T cell development: a study using fetal thymic organ cultures
AUTHOR(S): Kecha, Ouafae; Brilot, Fabienne; Martens, Henri; Franchimont, Nathalie; Renard, Chantal; Greimers, Roland; Defresne, Marie-Paule; Winkler, Rosita; Geenen, Vincent
CORPORATE SOURCE: Institute of Pathology CHU-B23, University of Liege, Liege, B-4000, Belg.
SOURCE: Endocrinology (2000), 141(3), 1209-1217
CODEN: ENDOAO; ISSN: 0013-7227
PUBLISHER: Endocrine Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The expression of insulin-like growth factor (IGF) and IGF receptor genes was investigated by RT-PCR during ontogeny of the murine thymus. IGF-1, IGF-1R, M6P/IGF-2R genes are expressed in the thymus both in fetal and postnatal life, whereas IGF-2 mRNAs decline after birth but are still detectable on the seventh week. By in situ hybridization, IGF-2 transcripts were located in the outer cortex and medulla of the postnatal thymus, and on the whole surface of the **epithelial**-like network in the fetal thymus. The effects of anti-IGFs and IGF-receptors neutralizing Abs on the generation of pre-T cell subpopulations were then investigated using fetal thymic organ cultures (FTOC). FTOC treatment with an anti-IGF-2 mAb, an anti-IGF-1R mAb, or an anti-M6P/IGF-2R polyclonal Ab induced a blockade of T cell differentiation at the CD4-CD8- stage, as shown by a significant increase in the percentage of CD4-CD8- cells and a decrease in the percentage of CD4+CD8+ cells. Moreover, anti-IGF-2 Ab treatment induced an increase in CD8+ cells suggesting that thymic IGF-2 might have a role in determining differentiation into the CD4 or CD8 lineage. Anti-IGF-1 Ab treatment decreased the proportion in CD4-CD8- cells and increased the frequency in CD4-CD8+. FTOC treatment with anti-(pro)insulin did not exert any significant effect on T cell development. These data indicate that the intrathymic IGF-mediated signaling plays an active role in the early steps of T cell differentiation during fetal development.
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 6 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:811055 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 132:54839
TITLE: Cationic amphiphile micellar complexes for targeted gene or protein delivery
INVENTOR(S): Tousignant, Jennifer D.; Eastman, Simon J.; Chu, Quiming; Lee, Edward R.; Fang, Shaona L.
PATENT ASSIGNEE(S): Genzyme Corporation, USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9965461	A2	19991223	WO 1999-US13875	19990618
WO 9965461	A3	20000224		
W: AU, CA, JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2335638	AA	19991223	CA 1999-2335638	19990618
AU 9946984	A1	20000105	AU 1999-46984	19990618
EP 1085857	A2	20010328	EP 1999-930442	19990618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002518313	T2	20020625	JP 2000-554341	19990618
PRIORITY APPLN. INFO.:			US 1998-89879P P	19980619
			WO 1999-US13875 W	19990618

AB The effective introduction of foreign genes and other biol. active mols. into targeted mammalian cells is a challenge still facing those skilled in the art. Gene therapy, for example, requires successful transfection of target cells in a patient. The present invention relates to novel micellar complexes of cationic amphiphilic compds. that facilitate delivery of biol. active mols. to the targeted cells of a mammal. The novel micellar complexes are comprised of a cationic amphiphile, a biol. active mol., a derivative of polyethylene glycol (PEG), and optionally, a co-lipid. A further aspect of the invention is the use of targeting agents in any of the methods that effectuate the delivery of biol. active mols. into the cells of mammals. A targeting agent is usually any mol., peptide sequence, or large protein that preferentially targets or binds to specific mammalian cells.

L27 ANSWER 7 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:496035 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 131:267455
TITLE: Cellular Response to Latent TGF-β1 Is Facilitated by Insulin-Like Growth Factor-II/**Mannose**-6-**phosphate** Receptors on MS-9 Cells
AUTHOR(S): Ghahary, Aziz; Tredget, Edward E.; Mi, Lei; Yang, Liju
CORPORATE SOURCE: Department of Surgery, Wound Healing Research Group, University of Alberta, Edmonton, AB, T6G 2S2, Can.
SOURCE: Experimental Cell Research (1999), 251(1), 111-120
CODEN: ECREAL; ISSN: 0014-4827
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This study was conducted to explore the mechanism of activation of TGF-β1 which is critical to its role in many physiol. and pathol. conditions. We have previously demonstrated that latent TGF-β1 modulates ECM through interaction with IGF-II/M6P receptors on dermal fibroblasts. In this report, we provide evidence that large (270 kDa) but not small (46 kDa) M6P receptors facilitate the cellular response to LTGF-β1 released from genetically modified cells. As a source of LTGF-β1, PA317 cells were transfected with either pLin-TGF-β1 vector or pLin vector with no TGF-β1 insert using calcium **phosphate** precipitation Conditioned medium from transfected cells was removed after 3 days and used to evaluate the latency and bioactivity of TGF-β1 using ELISA and mink lung **epithelial** cell growth inhibition assay, resp. The level of TGF-β1 was 20-fold greater (2142 vs. 102 pg/mL) in conditioned medium derived from pLin-TGF-β1-transfected cells than in that of controls. Various vols. of this conditioned medium were then used to treat MS-9, SR-2, and MS cells bearing the large, small, and no IGF-II/M6P receptors, resp., for 24 h. [3H]Thymidine incorporation, used as an index for cell proliferation, showed a markedly lower level of proliferation in MS-9 cells in response to a given concentration of LTGF-β1 than was seen in SR-2 and MS cells. Interestingly, under similar exptl. conditions, either addition of M6P at 1 mM concentration or anti-TGF-β1 antibody abrogated the MS-9 cell proliferative response to LTGF-β1. In contrast, the inhibitory response of these three cell strains to heat-activated conditioned medium was the same. As another measure of LTGF-β1-induced cellular response, the expression of mRNA for pro α1(I) of type I collagen was also evaluated. A marked increase in

expression of this transcript in MS-9 cells in response to LTGF-β1 was observed To further examine the possible correlation between the large IGF-II/M6P receptors and cellular responses to LTGF-β1, expression of IGF-II/M6P receptors at the protein and mRNA levels were evaluated by ligand binding and RT-PCR, resp. Using 125I-IGF-II as a ligand, the number of specific IGF-II/M6P receptors was found to be threefold greater on MS-9 than on SR-2 and MS cells. This finding was consistent with the level of IGF-II/M6P receptor mRNA detected by RT-PCR in MS-9 cells. In conclusion, the result of this study shows a direct link between large but not small IGF-II/M6P receptors on MS-9 cells and their response to LTGF-β1. (c) 1999 Academic Press.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 8 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:456601 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 131:209522
TITLE: The **mannose** 6-**phosphate** /insulin-like growth factor-II receptor is a substrate of type V transforming growth factor-β receptor
AUTHOR(S): Liu, Qianjin; Grubb, Jeffrey H.; Huang, Shuan Shian; Sly, William S.; Huang, Jung San
CORPORATE SOURCE: Department of Biochemistry and Molecular Biology, St. Louis University School of Medicine, St. Louis, MO, 63104, USA
SOURCE: Journal of Biological Chemistry (1999), 274(28), 20002-20010
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The type V transforming growth factor β (TGF-β) receptor (TβR-V) is a ligand-stimulated acidotropic Ser-specific protein kinase that recognizes a motif of SXE/S(P)/D. This motif is present in the cytoplasmic domain of the **mannose** 6-**phosphate** /insulin-like growth factor-II (Man-6-P/IGF-II) receptor. The authors have explored the possibility that the Man-6-P/IGF-II receptor is a substrate of TβR-V. Purified bovine Man-6-P/IGF-II receptor was phosphorylated by purified bovine TβR-V in the presence of [γ-32P]ATP and MnCl2 with an apparent Km of 130 nM. TGF-β stimulated the phosphorylation of the Man-6-P/IGF-II receptor at 0° in mouse L cells overexpressing the Man-6-P/IGF-II receptor and in wild-type mink lung **epithelial** (Mv1Lu cells) metabolically labeled with [32P]orthophosphate. The in vitro and in vivo phosphorylation of the Man-6-P/IGF-II receptor occurred at the putative phosphorylation sites as revealed by phosphopeptide mapping and amino acid sequence anal. TGF-β stimulated Man-6-P/IGF-II receptor-mediated uptake (.apprx.2-fold after 12 h treatment) of exogenous β-glucuronidase in Mv1Lu cells and type II TGF-β receptor (TβR-II)-defective mutant cells (DR26 cells) but not in type I TGF-β receptor (TβR-I)-defective mutant cells (R-1B cells) and human colorectal carcinoma cells (RII-37 cells) expressing TβR-I and TβR-II but lacking TβR-V. These results suggest the Man-6-P/IGF-II receptor serves as an in vitro and in vivo substrate of TβR-V and that both TβR-V and TβR-I may play a role in mediating the TGF-β-stimulated uptake of exogenous β-glucuronidase.

REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 9 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:364324 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 131:111897
TITLE: Insulin-like growth factor-II/**mannose** 6 **phosphate** receptors facilitate the matrix effects of latent transforming growth factor-β1 released from genetically modified keratinocytes in a fibroblast/keratinocyte co-culture system
AUTHOR(S): Ghahary, Aziz; Tredget, Edward E.; Shen, Qiong
CORPORATE SOURCE: Department of Surgery, Wound Healing Research Group, University of Alberta, Edmonton, AB, T6G 2B7, Can.
SOURCE: Journal of Cellular Physiology (1999), 180(1), 61-70

CODEN: JCLLAX; ISSN: 0021-9541
PUBLISHER: Wiley-Liss, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB This study was conducted to explore the mechanism of activation of transforming growth factor-β1 (TGF-β1) which is critical to its role in many physiol. and pathol. conditions. To date, almost all reports concerning TGF-β1 activation delineated that release of mature TGF-β1 from latency associated protein (LAP) is required for its activation. We report that latent TGF-β1 (LTGF-β1) released from TGF-β1 genetically modified keratinocytes grown in the top chamber of a co-culture system functions as a fibrogenic factor through interaction with insulin-like growth factor-II/**mannose** 6-**phosphate** (IGF-II/M6P) receptors of human dermal fibroblasts grown in the lower chamber of this system. Following successful transduction, the pLin-LTGF-β1 vector was amplified in PA317 packaging cells which possess viral structural proteins for vector in the presence of neomycin. Conditioned medium derived from packaging cells containing competent viral particles was then used to transduce either keratinocytes or fibroblasts grown in the upper chamber of a co-culture system, in which a 0.4 μm porous membrane separates the two chambers. In this way, LTGF-β1 produced by transduced cells in the upper chamber is released and diffuses into the lower chambers where dermal fibroblasts are grown. Conditioned medium from the lower chamber was removed 3 days later and used to evaluate the latency and bioactivity of TGF-β1 using ELISA and mink lung (Mv1Lu) **epithelial** growth inhibition assay. Cells were also harvested and used for RNA extraction The results of these expts. showed that (1) the TGF-β1-LAP complex, which was latent in traditionally used mink lung growth inhibition assay, directly modulated the expression of collagenase, type I, and type III collagen mRNA by dermal fibroblasts; (2) this stimulation was inhibited by M6P in a dose-dependent manner; (3) the TGF-β1-LAP inhibits Mv1Lu **epithelial** cells only when this complex was incubated with cell membranes isolated from dermal fibroblasts; and (4) LTGF-β1 activation seems to occur through a conformational alteration rather than by release of the mature TGF-β1 from LAP in our co-cultured system. This conformational alteration seems to occur through the interaction of the TGF-β1-LAP complex with the IGF-II/M6P receptors. Thus, the quantity of IGF-II/M6P receptors is important in cellular response to LTGF-β1 in any physiol. and pathol. conditions.

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 10 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:162111 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 130:205904
TITLE: Compacting nucleic acids for delivery to cells without aggregation
INVENTOR(S): Hanson, Richard W.; Perales, Jose C.; Ferkol, Thomas W.
PATENT ASSIGNEE(S): Case Western Reserve University, USA; Ohio University
SOURCE: U.S., 57 pp., Cont.-in-part of U.S. Ser. No. 216,534, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 10
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5877302	A	19990302	US 1997-716415	19970212
WO 9525809	A1	19950928	WO 1995-US3677	19950323

W: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE; DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TT
RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

PRIORITY APPLN: INFO.: US 1994-216534 B2 19940323
WO 1995-US3677 W 19950323

AB Methods and reagents for compaction of DNA without causing significant

aggregation and that can be used to facilitate their uptake by target cells are described. The nucleic acids may be used in gene therapy. Cell targetting may be achieved by binding the compacted DNA to a cell-specific ligand. The nucleic acid is preferably compacted to <30 nm or no more than twice its theor. min. diameter Conjugates of polylysine and galactopyranosyl phenylisothiocyanate were used to compact a plasmid carrying a factor IX gene under control of the PEP carboxykinase gene promoter. The compacted complexes were injected into rat livers and the rats expressed the gene for the duration of the experiment (140 days). Expression of the gene was induced by feeding a carbohydrate-free diet and the human protein could be detected in the blood. The transforming DNA was maintained as an episome. Expts. with report genes introduced into muscle cells showed that use of the complexes increased reporter gene expression by about 20-fold.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 11 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:126376 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 128:189187
TITLE: Delivery of nucleic acids to airway **epithelial** cells as complexes with glycosylated derivatives of polylysine
INVENTOR(S): Glick, Mary Catherine; Scanlin, Thomas F.; Kollen, Wouter J. W.
PATENT ASSIGNEE(S): Children's Hospital of Philadelphia, USA
SOURCE: PCT Int. Appl., 85 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806869	A1	19980219	WO 1997-US14280	19970813
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5948681	A	19990907	US 1997-907673	19970808
AU 9740659	A1	19980306	AU 1997-40659	19970813
PRIORITY APPLN. INFO.:			US 1996-23941P P	19960814
			US 1997-907673 A	19970808
			WO 1997-US14280 W	19970813

AB A method of introducing foreign DNA into animal cells in vivo, especially airway **epithelial** cells, as a complex with polylysine substituted with glycosyl residues is described. This can be used in methods of treating humans having respiratory disease by gene therapy. The preferred sugar for glycosidation of polylysine is lactose, although α-glucose, β-galactose, **mannose**, **mannose**-6-**phosphate**, fucose, or N-acetylglucosamine may also be used. Fusogenic peptides may also be used in the complex to increase the efficiency of uptake. Preparation of a number of glycosylated polylysine derivs. is described. Optimization expts. using cultured CF/T43 cells and a luciferase reporter gene are reported. Binding of the complex to the airway **epithelial** cells may be by lectins on the surface of the cells.

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L27 ANSWER 12 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:115860 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 126:209198
TITLE: **Mannose**-6-**phosphate** binding protein of tumor cells detected with synthetic oligosaccharide probes
AUTHOR(S): Abramenko, I. V.; Belous, N. I.; Gluzman, D. F.; Tearteash, T. V.; Bovin, N. V.
CORPORATE SOURCE: R.E. Kavetsky Institute of Experimental Pathology,

Oncology and Radiobiology, Academy of Sciences of Ukraine, Kiev, 252022, Ukraine
SOURCE: Eksperimental'naya Onkologiya (1996), 18(1), 26-29
CODEN: EKSODD; ISSN: 0204-3564
PUBLISHER: Institut Eksperimental'noi Patologii, Onkologii i Radiobiologii im. R. E. Kavetskogo NAN Ukrainy
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Using immunocytochem. methods and synthetic oligosaccharide probes, the presence of **mannose**-6-**phosphate** (M6P)-binding mols. on the surface and in the cytoplasm of human hemopoietic and **epithelial** cells was studied. M6P-binding mols. of human malignant transformed **epithelial** cells were identified. One was a 395 kD protein with Ca2+-dependent carbohydrate binding segment. The specificity of the M6P recognition was demonstrated by inhibition tests in the presence of excess of low mol. weight ligands. Preliminary data suppose its participation in the intracellular adhesion processes.

L27 ANSWER 13 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:444595 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 125:133589
TITLE: Coordinate expression of insulin-like growth factor II (IGF-II) and IGF-II/**mannose**-6-**phosphate** receptor mRNA and stable expression of IGF-I receptor mRNA during differentiation of human colon carcinoma cells (Caco-2)
AUTHOR(S): Hoeflich, Andreas; Yang, Yi; Rascher, Wolfgang; Blum, Werner F.; Huber, Stefan; Koepf, Gabriele; Kolb, Helmut J.; Kiess, Wieland
CORPORATE SOURCE: Children's Hospital, Justus Liebig Univ., Giessen, Germany
SOURCE: European Journal of Endocrinology (1996), 135(1), 49-59
CODEN: EJOEEP; ISSN: 0804-4643
PUBLISHER: Scandinavian University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Insulin-like growth factor II (IGF-II) has been implicated in the differentiation of skeletal muscle cells. In this study the putative role of IGF-II in **epithelial** cell differentiation was investigated. The expression of IGF-II, IGF-I receptor and IGF-II/**mannose**-6-**phosphate** receptor (IGF-II/M6P receptor) mRNA during spontaneous differentiation of the colon carcinoma cell line Caco-2 was measured. In addition, differentiation of Caco-2 cells during the cell culture period (days 1-21 in culture) was studied in parallel using morphol. (light and SEM) and biochem. markers of growth (DNA, RNA and protein content), and β-actin mRNA and glyceraldehyde **phosphate** dehydrogenase expression was studied using linear regression anal. Expression of IGF-II mRNA and IGF-II/M6P receptor mRNA correlated significantly with the progress of differentiation, while the IGF-I receptor was stably expressed throughout the culture period and exhibited a crucial role for the survival of Caco-2 cells, as shown by blocking expts. employing the monoclonal anti-IGF-I receptor antibody alpha-IR3. We hypothesize that: IGF-II mRNA and IGF-II/M6P receptor mRNA are expressed in a coordinate fashion during the differentiation of Caco-2 cells: coordinate expression of IGF-II and of IGF-II/M6P receptor mRNA might point to a role for IGF-II as growth stimulant and for the IGF-II/M6P receptor for a regulator of IGF-II bioavailability in differentiating cells; alternatively, high IGF-II/M6P receptor mRNA and protein expression in differentiated cells but low IGF-II binding to the IGF-II/M6P receptor point to an important intracellular role of this receptor type in differentiated colon **epithelial** cells; the IGF-I receptor mRNA is stably expressed during the differentiation process of Caco-2 cells; the IGF-I receptor protein seems to be a prerequisite for the survival of Caco-2 cells.

L27 ANSWER 14 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:999100 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 124:51669
TITLE: Organ-specific binding system for β-galactosidase in the male reproductive tract
AUTHOR(S): Grimalt, P.; Barbieri, M. A.; Sosa, M. A.; Bertini, F.
CORPORATE SOURCE: Universidad Nacional de Cuyo, Mendoza, Argent.
SOURCE: International Journal of Andrology (1995), 18(5),

243-7
CODEN: IJANDP; ISSN: 0105-6263
PUBLISHER: Blackwell
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This study reports on the binding of β-galactosidase obtained from different organs of the rat urogenital tract to membranes of these organs. Homologous and cross binding saturation assays indicated that: (1) high-affinity sites that recognize fructose-6-**phosphate** derivs. (FPR) are present in spermatozoa from the rete testis, epididymal membranes and testes, although the latter may reflect binding to testicular spermatozoa; (2) the membranes of the other organs studied do not have FPR; (3) the FPR of the epididymis does not recognize enzymes purified from other organs of the reproductive tract. These results suggest that the FPR-binding system belongs to a peculiar transport route that permits maturing spermatozoa to acquire hydrolytic enzymes secreted by the epididymal **epithelium.** In the epididymis and seminal vesicles more than 50% of the enzymic activity of β-galactosidase was recovered in cytosol, suggesting that the enzyme is located mainly in the secretory fluid of these organs.

L27 ANSWER 15 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:943113 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 123:330830
TITLE: Sertoli cell-spermatogenic cell interaction: the insulin-like growth factor-II/cation-independent **mannose** 6-**phosphate** receptor mediates changes in spermatogenic cell gene expression in mice
AUTHOR(S): Tsuruta, James K.; O'Brien, Deborah A.
CORPORATE SOURCE: Lab. Reproductive Biol., Univ. North Carolina, Chapel Hill, NC, 27599-7500, USA
SOURCE: Biology of Reproduction (1995), 53(6), 1454-64
CODEN: BIREBV; ISSN: 0006-3363
PUBLISHER: Society for the Study of Reproduction
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The insulin-like growth factor (IGF)-II/cation-independent **mannose** 6-**phosphate** receptor (CI-MPR) is a multifunctional receptor with distinct binding sites for IGF-II and **mannose** 6-**phosphate** (M6P)-bearing glycoproteins. The authors used the immediate-early response gene c-fos to assay early changes in gene expression in spermatogenic cells in response to ligands for this receptor that are present in the seminiferous **epithelium.** The authors confirmed that c-fos behaves as an immediate-early response gene in spermatogenic cells after stimulation of protein kinase C with phorbol ester or after intercellular calcium levels are raised with calcium ionophore. After determining that IGF-II mRNA is present in Sertoli cells, the authors treated spermatogenic cells with this growth factor and found that it increased c-fos mRNA levels in a dose-dependent manner. Similarly, Sertoli-cell-conditioned medium (SCM) caused a dose-dependent increase in c-fos levels in spermatogenic cells isolated from adult mice. This effect was inhibited in the presence of 5 mM M6P, demonstrating that this change in c-fos gene expression was mediated by the IGF-II/CI-MPR, in addition, SCM treatment of purified pachytene spermatocytes and round spermatids caused a dose-dependent increase in 18S rRNA levels that was completely abolished in the presence of M6P. The results provide direct evidence that IGF-II/CI-MPR ligands secreted by Sertoli cells can modulate gene expression in spermatogenic cells and strongly suggest that they are important in the regulation of spermatogenesis.

L27 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:556748 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 122:288897
TITLE: Receptors involved in carbohydrate binding modulate intestinal **epithelial**-neutrophil interactions
AUTHOR(S): Colgan, Sean P.; Parkos, Charles A.; McGuirk, Deidre; Brady, Hugh R.; Papayianni, Aikaterini A.; Frendl, Gyorgy; Madara, James L.
CORPORATE SOURCE: Dep. Anesthesia, Pathology Med., Brigham Women's Hosp., Boston, MA, 02115, USA
SOURCE: Journal of Biological Chemistry (1995), 270(18),

10531-9
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Neutrophil (polymorphonuclear neutrophil) migration across **epithelial** barriers is a common morphol. feature of many diseases. Previous studies show that PMN-**epithelial** interactions are dependent on the PMN β2-integrin CD11b/18; however, nothing is known about surface carbohydrates and PMN-**epithelial** interactions. Here we investigate the role of carbohydrates on PMN-**epithelial** interactions using PMN and cultured monolayers of the intestinal **epithelial** cell line T84. Addition of the carbohydrates **mannose** 6-**phosphate** (Man-6-P) and glucose 6-**phosphate** (Glu-6-P), but not fructose 1-**phosphate** (Fru-1-P) inhibited transmigration by ≥70%. Likewise, more complex carbohydrates, such as fucoidin and the Man-6-P-rich polysaccharide PPME selectivity inhibited PMN transepithelial migration. These carbohydrates were found to be inhibitory in the apical-to-basolateral direction as well as the basolateral-to-apical direction, indicating a lack of polarity. This panel of related carbohydrates, however, was not effective in modulating short-term adhesion of PMN to **epithelial** monolayers, indicating that carbohydrate ligands may modulate different steps in the transmigration cascade. Finally, addition of functionally inhibitory monoclonal antibodies specific for the selectins (CD62E, CD62L, and CD62P) revealed no observable effect on PMN transmigration. These studies suggest that cell surface carbohydrates may play a role in inflammatory processes of the intestine.

L27 ANSWER 17 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1994:677741 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 121:277741
TITLE: Specific **mannose**-6-**phosphate** receptor-independent sorting of pro-cathepsin D in breast cancer cells
AUTHOR(S): Capony, Francoise; Braulke, Thomas; Rougeot, Christian; Roux, Sylvie; Montcourrier, Philippe; Rochefort, Henri
CORPORATE SOURCE: Institute National Sante Recherche Medicale, Univ. Montpellier I, Montpellier, 34090, Fr.
SOURCE: Experimental Cell Research (1994), 215(1), 154-63
CODEN: ECREAL; ISSN: 0014-4827
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The secretion of pro-cathepsin D (pro-cath-D) in some human metastatic breast cancer cells (MCF7, MDA/MB231), contrary to normal mammary cells, is not increased by ammonium chloride treatment, indicating a **mannose**-6-**phosphate**-independent sorting to lysosomes. By studying a variety of cell lines and lysosomal enzymes, we show that secretion of newly synthesized pro-cath-D was not mediated by the 46-kDa **mannose**-6-**phosphate** receptor (MPR) and that its resistance to NH4Cl for secretion was specific to cath-D and not to other lysosomal enzymes. This resistance appeared to be correlated with the basal hypersecretion of pro-cath-D, but not with its overexpression. By contrast, pro-cath-D secretion was increased by NH4Cl in fibroblasts and nontumoral **epithelial** mammary cells, suggesting a specificity for cancer cells. Immunofluorescence staining showed that pro-cath-D, but neither cathepsin B nor β-hexosaminidase, accumulated in intracytoplasmic vesicles of cells treated with ammonium chloride. In pulse-chase expts. and by subcellular fractionation on Percoll gradient, cath-D was found to be sorted into dense lyosomes whether cells were treated or not by NH4Cl. Treatment of cells with NH4Cl, however, inhibited processing and maturation of pro-cath-D, which was also observed in light vesicles in the absence of NH4Cl. Part of pro-cath-D, but not processed enzyme, was also found to be membrane associated in saponin-permeabilized cells. We conclude that in breast cancer cells, the MPR-independent pathway of pro-cath-D to lysosome is predominant compared to normal cells and other lysosomal enzymes. This alternative pathway should therefore be considered, in addition to MPR, to explain pro-cath-D sorting and activation in breast cancer cells.

L27 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1993:667346 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 119:267346
TITLE: Mouse Sertoli cells secrete **mannose** 6-**phosphate** containing glycoproteins that are endocytosed by spermatogenic cells
AUTHOR(S): O'Brien, Deborah A.; Gabel, Christopher A.; Eddy, E. M.
CORPORATE SOURCE: Dep. Pediatr., Univ. North Carolina, Chapel Hill, NC, 27599-7500, USA
SOURCE: Biology of Reproduction (1993), 49(5), 1055-65
CODEN: BIREBV; ISSN: 0006-3363
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Sertoli cells were isolated from prepubertal mice and cultured in serum-free medium to determine whether they secrete glycoproteins containing **mannose** 6-**phosphate** (M6P). Assays of the conditioned medium for lysosomal enzyme precursors, which typically bear the M6P recognition marker, indicated that Sertoli cells selectively secreted β-N-acetylhexosaminidase and α- **mannosidase**, but not β-glucuronidase or β-galactosidase. Sertoli cells were labeled metabolically with [35S]methionine and the conditioned medium was fractionated on a cation-independent M6P receptor affinity column. Most of the secreted proteins did not bind to the column (peak A); however, .apprx.10% of the radioactivity eluted as a low-affinity fraction (peak B), and 5-11% of the recovered cpm bound to the column and were eluted with 2.5 mM M6P (peak C). The radiolabeled proteins in each fraction were analyzed by 1- and 2-dimensional electrophoresis and fluorog. Two protein bands with mol. wts. of 30,000 and 35,000 were present in peak B. Peak C contained ≥10 M6P-containing glycoproteins with mol. wts. of 30,000-135,00 and isoelec. points <6.5. The 35,000-mol.-weight constituent prominent both in peaks B and C was identified as procathepsin L by immunopptn. with a specific antibody. When pachytene spermatocytes and round spermatids were cultured overnight in the presence of peak C glycoproteins radiolabeled with 125I, both germ cell types accumulated these Sertoli M6P-glycoproteins by a receptor-mediated process that was specifically inhibited by M6P. The Sertoli M6P-glycoproteins taken up by germ cells were processed to lower mol. weight forms. These results provide evidence that M6P receptors on the surface of spermatogenic cells endocytose secreted glycoproteins that are likely to be present in the seminiferous **epithelium**.

L27 ANSWER 19 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:552810 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 119:152810
TITLE: Expression of IGF-II/Man-6-P receptors on rat, rabbit, and human colon **epithelial** cells
AUTHOR(S): Pillion, Dennis J.; Grizzle, William E.; Yang, Maria; Meezan, Elias; Stockard, Cecil R.; Ganapathy, Vadivel; Leibach, Frederick H.; Myers, Russell B.; Haskell, Joyce F.
CORPORATE SOURCE: Dep. Pharmacol., Univ. Alabama, Birmingham, AL, 35294, USA
SOURCE: American Journal of Physiology (1993), 264(6, Pt. 2), R1101-R1110
CODEN: AJPHAP; ISSN: 0002-9513
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Previous expts. from this laboratory have established the presence of receptors for insulin and insulin-like growth factor I (IGF-I) on apical membranes prepared from rabbit colon **epithelial** cells; however, no receptors for multiplication-stimulating activity (MSA), the rat peptide hormone equivalent of human IGF-II, were found in this tissue. In the current studies, radioligand binding assays, covalent crosslinking expts., and immunoblot analyses using a polyclonal rabbit antiserum that recognizes the IGF-II/**mannose** 6-**phosphate** (Man-6-P) receptor, all confirmed the presence of IGF-II/Man-6-P receptors on membranes prepared from rat and human colon **epithelial** cells. Exposure of rat colon **epithelial** cell membrane fractions to 5 mM Man-6-P before incubation with 125I-labeled IGF-II increased radioligand binding. Immunoblot anal. indicated that IGF-II/Man-6-P receptors were present in both unfractionated rat colon membranes and fractions enriched with apical membranes. Rabbit and human colon **epithelial** cells displayed a different pattern of receptor distribution than rat colon

epithelial cells, with more insulin receptors but relatively few IGF-II/Man-6-P receptors. Immunohistochem. studies using a rabbit polyclonal antiserum confirmed that IGF-II/Man-6-P receptors were present on both the apical and the basolateral surfaces of colon **epithelial** cells.

L27 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1993:514586 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 119:114586
TITLE: Correlation between **mannose**-6-**phosphate**/IGFII receptor and cathepsin D RNA levels by in situ hybridization in benign and malignant mammary tumors
AUTHOR(S): Zhao, Yong; Escot, Chantal; Maudelonde, Thierry; Puech, Carole; Rouanet, Philippe; Rochefort, Henri
CORPORATE SOURCE: Univ. Montpellier I, Montpellier, 34090, Fr.
SOURCE: Cancer Research (1993), 53(12), 2901-5
CODEN: CNREA8; ISSN: 0008-5472
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors evaluated levels of **mannose** 6-**phosphate** /insulin growth factor-II receptor (M6P/IGFII-R) RNA in breast cancer tumors by quant. in situ hybridization using a computer-aided image analyzer and compared them to cathepsin D RNA and protein levels in the same tissues. Breast cancer cells expressed more cathepsin D and M6P/IGFII-R RNA than fibroblasts in the same tumors. The authors found that a significant increase of cathepsin D RNA and M6P/IGFII-R RNA in breast cancer cells compared to **epithelial** cells of benign mastopathies. There was a pos. correlation between M6P/IGFII-R and cathepsin D RNA levels measured on serial sections. This contrasted with the inverse relation of these 2 RNA species in breast cancer cell lines where estrogen down regulates M6P/IGFII receptor RNA levels. Moreover, in vivo the authors found no correlation between the M6P/IGFII-R RNA level and menopausal or estrogen receptor status, suggesting that the in vivo regulation of M6P/IGFII-R RNA differs from its in vitro regulation in cell lines. The M6P/IGFII-R RNA level was not correlated cathepsin D status, histol grade, and tumor size but was significantly higher in lymph node-pos. tumors. The M6P/IGFII-R could therefore be an addnl. parameter to predict aggressive breast cancers, complementing cathepsin D assays and other more classical prognostic parameters.

L27 ANSWER 21 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:191471 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 116:191471
TITLE: **Mannose** 6-**phosphate** receptors: potential mediators of germ cell-Sertoli cell interactions
AUTHOR(S): O'Brien, Deborah A.; Gabel, Christopher A.; Welch, Jeffrey E.; Eddy, E. M.
CORPORATE SOURCE: Dep. Pediatr., Univ. North Carolina, Chapel Hill, NC, 27599-7500, USA
SOURCE: Annals of the New York Academy of Sciences (1991), 637(Male Germ Cell), 327-39
CODEN: ANYAA9; ISSN: 0077-8923
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review, with 113 refs., on: cell-cell interactions in the seminiferous **epithelium**; **mannose** 6-**phosphate** receptors (MPR); MPRs in isolated spermatogenic and Sertoli cells; MPR-mediated endocytosis in Sertoli and germ cells; and Sertoli cell secretion of MP-containing glycoproteins that are endocytosed by spermatogenic cells.

L27 ANSWER 22 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:422766 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 115:22766
TITLE: Selective internalization of the apical plasma membrane and rapid redistribution of lysosomal enzymes and **mannose** 6-**phosphate** receptors during osteoclast inactivation by calcitonin
AUTHOR(S): Baron, Roland; Neff, Lynn; Brown, William; Louvard, Daniel; Courtoy, Pierre J.
CORPORATE SOURCE: Sch. Med., Yale Univ., New Haven, CT, USA
SOURCE: Journal of Cell Science (1990), 97(3), 439-47

CODEN: JNCSAI; ISSN: 0021-9533
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effects of inhibition of bone resorption by calcitonin were studied at the level of the osteoclast. Although not **epithelial**, the osteoclast is polarized with the secretion of newly synthesized lysosomal enzymes and of acid occurring specifically at the apical pole, facing the bone compartment. The membranes composing the apical (ruffled-border) and basolateral domains contain topol. restricted antigens, a 100 + 103 Mr lysosomal membrane protein and Na+,K+-ATPase, resp. Calcitonin induces a rapid (15-60 min) redistribution of the apical marker as well as of markers of the secretory compartment of the osteoclast (arylsulfatase and cation-independent **mannose** 6-**phosphate** (Man6P) receptors). The apical plasma membrane, in contrast to the basolateral membrane, is selectively internalized. This internalization leads to the disappearance of the ruffled border. The vesicular translocation of apical membranes is reminiscent of the events occurring in gastric oxyntic cells and in kidney tubule intercalated cells during the regulation of acid secretion. In parallel, the synthesis of both the lysosomal enzyme arylsulfatase and Man6P receptors is arrested. The products that were already present in the secretory pathway seem to be rerouted to intracellular vacuoles instead of being targeted to the plasma membrane, leading to marked accumulation of enzymes in the inhibited cells. These results suggest that the rapid inhibition of bone resorption by calcitonin involves the vesicular translocation of the apical membranes and the rapid arrest in the synthesis and secretion of lysosomal enzymes in osteoclasts.

L27 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:140322 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 114:140322
TITLE: Identification of endogenous sugar-binding proteins in the accessory sex glands of NMRI mice. A histochemical and biochemical study
AUTHOR(S): Sinowatz, F.; Gabius, H. J.; Hauke, C.; Breipohl, W.; Amselgruber, W.
CORPORATE SOURCE: Inst. Vet. Anat., Univ. Munich, Munich, W-8000/22, Germany
SOURCE: Histochemistry (1991), 95(4), 357-63
CODEN: HCMYAL; ISSN: 0301-5564
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The histotopog. distribution of carbohydrate-binding proteins in the prostate and seminal vesicle of sexually mature NMRI mice was investigated using a panel of fluorescein-isothiocyanate (FTC) labeled neoglycoproteins (chemical glycosylated bovine serum albumin (BSA) and asialoglycoproteins. Addnl., biochem. anal. using affinity chromatog. and SDS-gel electrophoresis was performed to purify and characterize the resp. proteins from the tissue. Histochem. results demonstrate the presence of endogenous receptors for the carbohydrate part of glycoconjugates in both glands. In the prostate a distinct staining was seen after incubation with melibiose-BSA-FTC, glucuronic acid-BSA-FTC, and asialofetuin-FTC (only in the ventral prostate). In the **epithelium** of the seminal vesicle a weak staining occurred after incubation with asialofetuin-FTC and maltose-FTC. In the stroma of both accessory sex glands a distinct binding of several (neo)glycoproteins specific for β-galactoside-binding proteins was observed which could be attributed to a β-galactoside-binding lectin. Biochem. anal. confirmed the presence of such a histochem. detectable activity. The carbohydrate-binding proteins of the stroma, which were obviously linked to the elastic fibers, may play a role in the organization of the extracellular matrix in the interstitium of the glands.

L27 ANSWER 24 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1991:39827 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 114:39827
TITLE: Pentose **phosphate** pathway in rat colonic **epithelium**
AUTHOR(S): Butler, R. N.; Arora, K. K.; Collins, J. G.; Flanigan, I.; Lawson, M. J.; Roberts-Thomson, I. C.; Williams, J. F.
CORPORATE SOURCE: Dep. Gastroenterol., Queen Elizabeth Hosp., Woodville South, 5011, Australia
SOURCE: Biochemistry International (1990), 22(2), 249-60

CODEN: BIINDF; ISSN: 0158-5231
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The maximum catalytic capacities of the reactions of the nonoxidative pentose pathway for the conversion of ribose 5-**phosphate** to hexose and triose **phosphates** by the proximal and distal colon under feeding and starvation regimes are among the highest in the animal body. The qual. presence of the oxidative pentose pathway was assessed by measurement of the C-1/C-6 ratio value of 1.67-1.82. Enzymes of the F-type and L-type pentose pathways are present in colonocytes, and their maximum catalytic activities in colonocyte cytosol are reported. The contribution of the F-type pentose cycle to the total glucose metabolism of colonocytes, measured by the specific yield method, is negligibly low (.apprx.1.5%). Colonic **epithelial** cells use glucose at a high rate (7.1 μmol/min/g dry weight), and 79% of the glucose is converted to lactate. Arabinose 5-**phosphate** has an intermediary role in the formation of keto pentose, sedoheptulose, and hexose **phosphates** from ribose 5-**phosphate** by colonocyte cytosol. The intermediary and reaction products of [1-13C]ribose 5-**phosphate** dissimilation by colonocytes is investigated by 13C NMR spectroscopy. The 13C positional isotope distributions show labeling of C-1 and C-3 of hexose 6-**phosphates** consistent with either the theor. predictions of the F-type pentose pathway or of the activities of exchange reactions catalyzed by transketolase and(or) transaldolase. Measurements of exchange reactions showed that the C-1/C-3 labeling of these compds. is mostly, if not wholly, attributable to exchange catalysis by these group-transferring enzymes. Apparently, the F-type PC has little role in the glucose metabolism of colonocytes, and pentose **phosphate** formation may thus occur by a contribution (.apprx.20% of the total glucose metabolism) by the alternate L-type pathway.

L27 ANSWER 25 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1990:495169 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 113:95169
TITLE: Surface distribution of the **mannose** 6-**phosphate** receptors in **epithelial** Madin-Darby canine kidney cells
AUTHOR(S): Prydz, Kristian; Braendli, Andre W.; Bomsel, Morgane; Simons, Kai
CORPORATE SOURCE: Eur. Mol. Biol. Lab., Heidelberg, D-6900, Germany
SOURCE: Journal of Biological Chemistry (1990), 265(21), 12629-35
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The surface polarity of both the cation-independent (CI-MPR) and the cation-dependent (CD-MPR) **mannose** 6-**phosphate** receptors was analyzed in the **epithelial** Madin-Darby canine kidney (MDCK) cell line grown on polycarbonate filters. The surface localization was studied by plasma membrane domain-sp. surface labeling methods and by confocal microscopy using MPR-specific antibodies. The CI-MPR was shown to be exclusively present on the basolateral cell surface. In contrast, the CD-MPR was expressed neither apically nor basolaterally. However, an intracellular pool of CD-MPR could be detected. In MDCKII-RCAr cells, cell surface CI-MPR was shown to recycle between the basolateral plasma membrane and the trans-Golgi network. After exogalactosylation, cell surface CI-MPR acquired sialic acid residues in a time-dependent manner. Furthermore, the basolateral CI-MPR was shown to be functional. Lysosomal enzymes, bearing the **mannose** 6-**phosphate** recognition marker, were taken up from the basolateral medium and endocytosed into the cells. Uptake of lysosomal enzymes from the apical side was insignificant and not MPR mediated. These results extend previous immunoelectron microscopic studies on the intracellular polarity of the CI-MPR (Parton, R. G., et al., 1989) which showed that the CI-MPR was present in basolateral early endosomes and in late endosomes but absent from apical early endosomes.

L27 ANSWER 26 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1988:109882 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 108:109882
TITLE: **Mannose** 6-**phosphate** receptors on the plasma membrane on rat retinal pigment **epithelial** cells

AUTHOR(S): Tarnowski, Betty I.; Shepherd, Virginia L.; McLaughlin, Barbara J.
CORPORATE SOURCE: Dep. Anat. Neurobiol., Univ. Tennessee, Memphis, TN, USA
SOURCE: Investigative Ophthalmology & Visual Science (1988), 29(2), 291-7
CODEN: IOVSDA; ISSN: 0146-0404
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The retinal pigment **epithelium** (RPE) phagocytizes the tips of photoreceptor outer segments (OS) during normal eye function. It is not known what ligand on OS is recognized by the RPE for removal from the interphotoreceptor matrix. It is possible that a sugar residue on a cell surface glycoconjugate of either the OS or RPE mediates the phagocytic interaction. Pinocytic expts. with a soluble **mannose** 6-**phosphate** ligand (125I-labeled **mannosidase**) showed that similar quantities of ligand were bound by RPE explants from Long Evans rat retinas and from Royal College of Surgeons (RCS/p+) rat retinas known to be defective in the phagocytosis of OS. The addition of **mannose** 6-**phosphate** reduced the total counts of bound α-**mannosidase** by 23% in both normal and dystrophic RPE explants. **Mannose** 6-**phosphate** receptors were visualized on normal and dystrophic RPE plasma membranes by immunocytochem. techniques. Further, phagocytosis was studied by using phosphomannan-coated beads as phagocytic particles. Dystrophic RPE phagocytized phosphomannan-coated beads by a **mannose** 6-**phosphate** specific mechanism as shown by a significant reduction in the number of these coated beads taken up in the presence of the competing sugar. In contrast, normal RPE showed no uptake of phosphomannan-coated beads. Apparently, a **mannose** 6-**phosphate** receptor is on the apical plasma membrane of rat RPE. This receptor may not be involved in normal OS phagocytic recognition, but may function in the trafficking of lysosomal enzymes by RPE cells.

L27 ANSWER 27 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1988:92052 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 108:92052
TITLE: The distribution of 215-kilodalton **mannose** 6-**phosphate** receptors within cis (heavy) and trans (light) Golgi subfractions varies in different cell types
AUTHOR(S): Brown, William J.; Farquhar, Marilyn Gist
CORPORATE SOURCE: Sect. Biochem., Mol. Cell Biol., Cornell Univ., Ithaca, NY, 14853, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1987), 84(24), 9001-5
CODEN: PNASA6; ISSN: 0027-8424
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The distribution of **mannose** 6-**phosphate** (Man-6-P) receptors for lysosomal enzymes was investigated in Golgi subfractions prepared from 3 different cultured cell lines. Total microsomal fractions from clone 9 hepatocytes, normal rat kidney, or CHO cells were subfractioned by flotation in sucrose d. gradients, which resolves Golgi membranes into heavy (cis), intermediate, and light (trans) subfractions. In all cases, the results for the distribution of the receptors in Golgi subfractions obtained by Golgi subfractionation in d. gradients and by immunoelectron microscopy were in agreement. In clone 9 cells, Man-6-P receptors were enriched in heavy (cis) Golgi subfractions, whose peak d. (ρ = 1.17) was greater than those containing either galactosyltransferase activity, a trans Golgi marker, or α-**mannosidase** II, a middle Golgi marker. By immunoelectron microscopy, the receptors were localized to a single cis Golgi cisterna. In CHO cells, Man-6-P receptors were concentrated in Golgi membranes of low d. (1.12 g/mL) overlapping the peak of galactosyltransferase activity. By the immunoperoxidase technique, the receptors were usually localized to a single trans Golgi cisterna. In normal rat kidney cells, Man-6-P receptors were broadly distributed across Golgi membranes (ρ = 1.12-1.17), and by immunoperoxidase localization they were found to be broadly distributed across the stacked Golgi cisternae. Thus, the distribution of Man-6-P receptors within the Golgi complex varies from 1 cell type to another. These differences in receptor distribution may reflect variations in lysosomal enzyme trafficking among different cell types.

L27 ANSWER 28 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1987:99895 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 106:99895
TITLE: Extracellular release of acid hydrolases from cultured retinal pigmented **epithelium**
AUTHOR(S): Wilcox, David K.
CORPORATE SOURCE: Sch. Med., Univ. Pittsburgh, Pittsburgh, PA, 15213, USA
SOURCE: Investigative Ophthalmology & Visual Science (1987), 28(1), 76-82
CODEN: IOVSDA; ISSN: 0146-0404
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The intracellular and extracellular distribution of acid hydrolases in cultured retinal pigmented **epithelium** (RPE) was studied. Incubation of cultured RPE in medium containing 20 mM **mannose** 6-**phosphate** resulted in the extracellular release of .apprx.15% of the cell-associated activity of several acid hydrolases. This represented an .apprx.120% increase over control levels after 24 h of culture with 20 mM **mannose** 6-**phosphate**. The extracellular release was not due to cell lysis, since no release of the cytoplasmic marker lactate dehydrogenase was seen. N-Acetyl-β-glucosaminidase, α-**mannosidase**, and β-glucuronidase were released into the extracellular medium, whereas acid phosphatase and β-glucosidase were not. The release was specific for **mannose** 6-**phosphate** and was dose dependent. Inhibition of protein synthesis by treatment of RPE cells with cycloheximide (100 μg/mL) inhibited extracellular acid hydrolase release. RPE cells exhibited N-acetyl-β-glucosaminidase bound to the cell surface via a **mannose** 6-**phosphate** -sensitive receptor. Apparently, a specific extracellular release of acid hydrolases by RPE occurs and ≥1 acid hydrolase exists on the RPE cell surface. This may represent a mechanism for control of cell surface and extracellular levels of these enzymes in RPE via the **mannose** 6-**phosphate** receptor.

L27 ANSWER 29 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1984:82626 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 100:82626
TITLE: Enhancement of bacterial adhesion by shear forces: characterization of the hemagglutination induced by Aeromonas salmonicida strain 438
AUTHOR(S): Brooks, D. E.; Trust, T. J.
CORPORATE SOURCE: Dep. Pathol., Univ. British Columbia, Vancouver, BC, V6T 1W5, Can.
SOURCE: Journal of General Microbiology (1983), 129(12), 3661-9
CODEN: JGMIAN; ISSN: 0022-1287
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Application of a viscometric assay to the hemagglutination induced by A. salmonicida strain 438 showed that shear forces can enhance the strength of bacterial adhesion. The D-mannose/L-fucose-sensitive reaction proceeded in 2 phases, an initial phase in which the degree of aggregation remained constant during shearing and a 2nd stage, induced by shear, in which agglutination was enhanced as shear was maintained. The results strongly paralleled those found in studies of concanavalin A-induced hemagglutination, providing good evidence that adhesion in this species took place via lectin-like mols. Me α-D-mannoside, which strongly inhibits hemagglutination in this system, would not fully reverse the shear-dependent reaction. EGTA inhibited and reversed both phases, however. The effects of bacterial concentration, temperature, time of growth, pH, and a spectrum of monosaccharide inhibitors were also studied. The results demonstrated that the shear-dependent reaction has a number of features which distinguish it from the initial stage of hemagglutination, implying differences in the underlying biochem. mechanisms involved.

L27 ANSWER 30 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:3682 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 92:3682
TITLE: Inhibition of lysosomal enzyme endocytosis by carbohydrate and lectins
AUTHOR(S): Von Figura, Kurt; Ullrich, Kurt; Mersmann, Guenther; Beeck, Hannelora; Weber, Ernst; Strecker, Gerard

CORPORATE SOURCE: USA
SOURCE: Glycoconjugate Res., Proc. Int. Symp., 4th (1979), Meeting Date 1977, Volume 2, 951-3. Editor(s): Gregory, John D.; Jeanloz, Roger W. Academic: New York, N. Y.
CODEN: 41RSAU
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Lysosomal enzyme endocytosis by fibroblasts and liver **epithelium** occurs by binding to cell surface receptors which can also be recognized by specific saccharides, saccharide derivs., and lectins. Adsorptive endocytosis of lysosomal α-N-acetylglucosaminidase; β-N-acetylglucosaminidase, arylsulfatase A, and α-**mannosidase** was specifically and competitively inhibited by D-**mannose**, L-fucose, Me α-D-mannopyranoside, p-nitrophenyl α-glycosides of D- **mannose** and L-fucose, D-lyxose, D-arabinoside, and **mannose** 6-**phosphate**, all of which exerted inhibition by interaction with the cell surface receptor. On treatment of the lysosomal enzymes with alkaline phosphatase adsorptive endocytosis was inhibited or moderated for both fibroblasts and liver **epithelium** cells, indicating that the cell surface receptor recognizes a phosphorylated carbohydrate on lysosomal enzymes. β-Glucuronidase accumulation, the uptake of which was not affected by sugars, was not inhnbited by alkaline phosphatase treatment. On pretreatment of fibroblasts with concanavalin A and wheat germ agglutinin, nonspecific inhibition of enzyme endocytosis was observed This probably results from the effect of lectins on the lateral mobility of cell surface receptor components. Apparently, the receptor is a glycoprotein and(or) closely coupled to a lectin receptor.

L27 ANSWER 31 OF 31 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1979:52165 CAPLUS <<LOGINID::20061205>>
DOCUMENT NUMBER: 90:52165
TITLE: **Epithelial** rat liver cells have cell surface receptors recognizing a phosphorylated carbohydrate on lysosomal enzymes
AUTHOR(S): Ullrich, Kurt; Mersmann, Guenther; Fleischer, Martin; Von Figura, Kurt
CORPORATE SOURCE: Inst. Physiol. Chem., Univ. Muenster, Muenster, Fed. Rep. Ger.
SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie (1978), 359(11), 1591-8
CODEN: HSZPAZ; ISSN: 0018-4888
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Receptor-mediated endocytosis of α-N-acetylglucosaminidase by cultured **epithelial** liver cells of rat was inhibited by **mannose**, L-fucose, and most effectively by **mannose** 6-**phosphate**. Endocytosis of α-N-acetylglucosaminidase was lost after treatment of the enzyme with alkaline phosphatase. Apparently, rat **epithelial** liver cells possess cell surface receptors that recognize a phosphorylated carbohydrate on α-N-acetylglucosaminidase, as was previously reported for cell surface receptors of human skin fibroblasts. Inhibition of α-**mannosidase** endocytosis by rat **epithelial** liver cells in the presence of **mannose** 6-**phosphate** and loss of enzyme endocytosis after treatment with alkaline phosphatase suggest that this enzyme is recognized by the same receptor.